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Plastics 101 Webinar Series: Plastic Design and Production

THURSDAY, OCTOBER 17, 2024

All times are US Eastern Time

12:00–12:05 **Welcome and Goals for the Webinar Series**

LaShanda Korley, Distinguished Professor of Engineering, University of Delaware; and Co-Chair, Roundtable on Plastics

12:05–12:10 **An Overview of Webinar 2**

Hilda Buss, Managing Engineer, Exponent, Inc.

12:10–12:30 **Plastic Design: The Current State of Knowledge**

Katrina Knauer, Chief Technology Officer, National Renewable Energy Laboratory

12:30–12:50 **Plastic Production: Opportunities and Challenges**

Holli Alexander, Circularity Strategic Initiatives Manager, Eastman Chemical Company

12:50–1:10 **Impacts on Communities**

Joy Banner and **Jo Banner**, Co-Founders and Co-Directors, The Descendants Project

1:10–1:30 **Current Policy Landscape: Plastic Design, Production, and Education**

Michelle Nowlin, Clinical Professor of Law and Co-Director, Environmental Law and Policy Clinic, Duke University School of Law

1:30–1:55 **Q&A and Discussion: Gaps and Future Opportunities**

All Participants, with **Hilda Buss**, Moderator

1:55–2:00 **Summary Remarks**

Hilda Buss, Managing Engineer, Exponent, Inc.

2:00 **MEETING ADJOURN**

SPAKER BIOGRAPHIES

HILDA BUSS (Moderator) is a managing engineer at Exponent, Inc. Dr. Buss' work includes product development, scale up, and failure analysis of polymer systems. She assists clients in all stages of product life from design with a focus on performance and sustainability to assessing in-field performance and carrying out failure analysis. With over a decade of experience in the polymer science field, her interests include using structure-property relationships of materials to address real-world problems. Prior to joining Exponent, Dr. Buss worked at Dow Chemical, developing new monomers for use in acrylic emulsion polymerization and enhancing methods for evaluating primary cleaning in the auto-dishwashing market, including for biodegradable dispersants. She is a voting member of the ASTM International Committee on Plastics and a member of the subcommittee on Recycled Plastics, as well as a member of the Society for Plastics Engineers. Dr. Buss is a licensed engineer in the state of California. She received a B.S. in chemical engineering from Massachusetts Institute of Technology and a Ph.D. in chemical engineering from University of California, Berkeley.

KATRINA KNAUER is a polymer scientist who has dedicated her scientific career to solving the plastic waste problem. She has a Ph.D. in polymer science and engineering from the University of Southern Mississippi and completed the BASF Ph.D. Leadership Development Program in 2018 before taking a senior scientist role in BASF's Plastics Division. Her research efforts focused on advanced recycling technologies which ultimately led her to leading Materials Innovation R&D at Novoloop, a chemical recycling startup. Recently, Dr. Knauer joined National Renewable Energy Laboratory (NREL) as the chief technology officer of the Bio-Optimized Technologies to keep Thermoplastics our of Landfills and the Environment (BOTTLE) Consortium, where she is developing sustainable technologies to chemically upcycle today's existing plastic waste streams and develop new plastics for the future that are recyclable by design.

HOLLI ALEXANDER is a Strategic Initiatives Manager in Eastman's Circular Advocacy organization. She helps translate the complexity of sustainability into tangible and actionable efforts. Her priorities today are focused on sustainability, circular economy, and advocacy. She has worked closely with plastic recycling for over a decade. Holli currently serves as an officer on the Board of Directors for the US Plastics Pact and the PLASTICS Industry Association. She also represents Eastman in a variety of other external organizations including The Recycling Partnership, Sustainable Packaging Coalition, Ocean Plastics Leadership Network, and the Association of Plastic Recyclers. Ms. Alexander launched the ANSI US Technical Advisory Group for the ISO committee on Chain of Custody and co-authored a chapter on mass balance in Current Topics in the Circular Economy of Polymers which was published by the American Chemistry Society in 2021.

JOY BANNER is Co-Founder and Co-Director of The Descendants Project, a nonprofit foundation committed to the liberation of the Black descendant community through the dismantling of inequitable and discriminatory economic, environmental, and social systems inherent in the violent legacies of slavery. After earning a Ph.D. from Louisiana State University, she taught business communications, marketing, and entrepreneurship at the university level where she advanced to Chair of the Management program. Dr. Banner is a proud member of the local descendant community with rooted ancestry that can be traced to the 18th century. Thefolklore, narratives, and resourcefulness of her community elders and ancestors are the inspiration for the collective and collaborative philosophy of The Descendants Project, in service of the community's health, wellness, and most importantly, happiness. As part of this work, Dr. Banner is on the front lines of the struggle against environmental racism in the form of petrochemical plants along Louisiana's River Road, otherwise known as "Cancer Alley." Dr. Banner is the former Director of Communications and descendant of people enslaved at Whitney Plantation, the only plantation museum in Louisiana that centers the lives of the enslaved. In her spare time, she enjoys writing screenplays, biking on the levee, and taking care of her fur baby, Louie.

JO BANNER is Co-Founder and Co-Director of The Descendants Project, where she channels her affection and knowledge into challenging systems, primarily legal systems that have exploited the descendants, such as herself, of those enslaved to plantations. She is now working to gain recognition of the burial grounds of the enslaved as sacred sites and aims to protect such sites and their communities from degradation, especially degradation caused

by heavy industry. As a resident of Louisiana's Cancer Alley, she champions environmental justice causes and is actively developing strategies to transform land slated for use by pollutant-causing industries into green spaces where communities like hers can thrive. She has spoken before the United Nations and participated in the first Intergovernmental Negotiating Committee to develop an international legally binding instrument on plastic pollution.

MICHELLE NOWLIN joined the Duke Law faculty in June 2008. Ms. Nowlin works with students from the law school and Nicholas School of the Environment on a range of matters, including waste reduction and marine debris, measures to protect children from lead poisoning hazards, policies to support sustainable agriculture and local food systems, public lands, endangered species protection, and bycatch from fisheries. She regularly collaborates with environmental law professors around the country on amicus curiae briefs and federal rulemaking processes and with scientists on regulatory and policy matters. Ms. Nowlin currently serves as chair of the board of advisors for the Duke Campus Farm, as a faculty advisor for the Duke Environmental Law and Policy Forum, and as chair of the Law School's Public Interest and Pro Bono Committee. She serves on the American Association of Law School's Environmental Law Section council and is a past chair of the AALS' Food and Agriculture Law Section and of the North Carolina Bar Association's Environment, Energy and Natural Resources Law Section. Prior to joining Duke's faculty, she was a senior attorney with the Southern Environmental Law Center in Chapel Hill. Ms. Nowlin is a member of the North Carolina Bar and the D.C. Bar, and is admitted to practice in the state and federal courts of North Carolina, the U.S. Fourth Circuit Court of Appeals, the D.C. Circuit Court of Appeals, and the U.S. Supreme Court. Ms. Nowlin earned her B.A. with Highest Honors from the University of Florida, where she was also inducted into Florida Blue Key and Phi Beta Kappa. She earned a dual J.D./M.A. from Duke Law School and the School of the Environment.